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Static Electricity Precautions

1. Don't take this motherboard and components out of their original static-proof package until you are ready to install them.
2. While installing, please wear a grounded wrist strap if possible. If you don't have a wrist strap, discharge static electricity by touching the bare metal of the system chassis.
3. Carefully hold this motherboard by its edges. Do not touch those components unless it is absolutely necessary. Put this motherboard on the top of static-protection package with component side facing up while installing.

Pre-Installation Inspection

1. Inspect this motherboard whether there are any damages to components and connectors on the board.
2. If you suspect this motherboard has been damaged, do not connect power to the system. Contact your motherboard vendor about those damages.

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A15G Series, V1.0
November 2007

Table of Contents

Trademark i

Chapter 1: Introduction 1

Key Features 1
Package Contents 4

Chapter 2: Motherboard Installation 5

Motherboard Components 6
I/O Ports 7
Installing the Processor 7
Installing Memory Modules 8
Jumper Settings 10
Install the Motherboard 11
Connecting Optional Devices 12
Install Other Devices 14
Expansion Slots 16

Chapter 3: BIOS Setup Utility 18

Introduction 18
Running the Setup Utility 18
Standard CMOS Setup Page 19
Advanced BIOS Features Page 21
Advanced Chipset Features Page 25
Integrated Peripherals Page...28
Power Management Setup Page 32
PnP/PCI Configurations Page 34
PC Health Status Page 34
Load Fail-Safe Defaults 36
Load Optimized Defaults 36
Set Supervisor/User Password 36
Save & Exit setup 37
Exit without saving 37

Chapter 4: Software & Applications 38

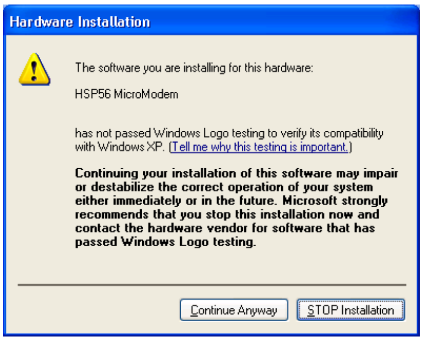
Introduction 38
Installing Support Software 38
Bundled Software Installation 42

Chapter 5: Setting Up NVIDIA RAID Configuration 43

Setting Up a Non-Bootable RAID Array 43
Setting Up a Bootable RAID Array 46

Notice:

1. Owing to Microsoft's certifying schedule is various to every supplier, we might have some drivers not certified yet by Microsoft. Therefore, it might happen under Windows XP that a dialogue box (shown as below) pops out warning you this software has not passed Windows Logo testing to verify its compatibility with Windows XP. Please rest assured that our RD department has already tested and verified these drivers. Just click the "Continue Anyway" button and go ahead the installation.



The software you are installing for this hardware:

HSP56 MicroModem

has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)

Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.

Chapter 1 Introduction

This motherboard has a **socket AM2+/AM2** supporting the newest and advanced **AMD Phenom™/Athlon™ 64 X2 Dual-Core/Athlon™ 64/Sempron™** CPUs with **2000 MT/s HyperTransport™ (HT)** interface Speeds.

This motherboard is based on **NVIDIA® MCP61P/MCP61S** that supports the **Serial ATA** interface for high-performance and mainstream desktop PCs, and the built-in **USB 2.0** providing higher bandwidth, implementing **USB 2.0 EHCI** and **USB 1.1 OHCI**. It supports **High Definition Audio Codec** and provides one **IDE Ultra DMA 133**/100/66/33 channel. It has one **PCI Express x16** slot (MCP61S only supports PCI Express x8), one **PCI Express x1** slot and two 32-bit **PCI** slots. There is a full set of I/O ports including two PS/2 ports for mouse and keyboard, one parallel port, one serial port, VGA1, one LAN port, four back-panel USB2.0 ports, and audio jacks for microphone, line-in and 6/8-channel (optional) line-out. Onboard USB header(s) can provide extra ports by connecting the Extended USB Module to the motherboard.

This motherboard is a **Micro ATX size** motherboard and has power connectors for an ATX power supply.

Key Features

The key features of this motherboard include:

Socket-AM2+/AM2 Processor Support

- Supports socket AM2+/AM2 for **AMD Phenom™/Athlon™ 64 X2 Dual-Core/Athlon™ 64/Sempron™** processors
- Supports up to **2000 MT/s HyperTransport™** interface Speeds

Note: HyperTransport Technology is a point-to-point link between two devices, it enables integrated circuits to exchange information at much higher speeds than currently available interconnect technologies.

Chipset

The NVIDIA® **MCP61P/MCP61S** is a single-chip with proven reliability and performance.

- 1 GHz HyperTransport x16 up and down links to the AM2+/AM2 CPUs
- PCI Express 16 lane link interface for external graphics processors (MCP61S only supports PCI Express 8 lane link interface for other peripherals)
- PCI 2.3 interface at 33 MHz
- Integrated SATA 3.0 Gb/s Host Controller
- USB 2.0 ports supported
- Fast ATA-133 IDE controller

Memory Support

- Two 240-pin DIMM slots for DDR2 SDRAM memory modules
- Supports Dual Channel **DDR2 800**/667/533/400 memory bus
- Maximum installed memory is 16* GB
  (* Duo to the DRAM maximum size is 2 GB at present, the memory maximum size we have tested is 4 GB.)

Expansion Slots

- One PCI Express x16 slot (MCP61S only supports PCI Express x8)
- One PCI Express x1 slot
- Two 32-bit PCI slots

Onboard IDE channels

- One IDE Connector
- Supports PIO (Programmable Input/Output) and DMA (Direct Memory Access) modes
- Supports IDE Ultra DMA bus mastering with transfer rates of **133**/100/66/33 MB/sec

Serial ATA

- Four Serial ATA Connectors
- Compliant with the SATA2 with **3.0** Gb/s per direction per channel

Audio Codec (optional)

• 7.1+2 Channel High Definition Audio Codec • All DACs support 192K/96K/48K/44.1KHz DAC sample rate • Software selectable 2.5V/3.75V VREPOUT • Meets Microsoft WHQL/WLP 2.x audio requirements • Direct Sound 3D™ compatible
• 7.1 Channel High Definition Audio Codec • ADC support 148K/96K sample rate • High quality differential CD input • Power Support: Digital: 3.3V; Analog: 5.0V • Meets Microsoft WHQL/WLP 2.0 audio requirements • Direct Sound 3D™ compatible
• 5.1 Channel Hifh Definition Audio Codec • ADCs support 44.1/48k/96k sample rate • Meets Microsoft WHQL/WLP 3.0x audio requirements • Direct Sound 3D™ compatible
• 5.1 Channel Hifh Definition Audio Codec • ADCs support 44.1/48k/96k sample rate • Meets Microsoft WLP 3.08 Vista premium and mobile PCs audio requirements • Direct Sound 3D™ compatible

Onboard I/O Ports

- Two PS/2 ports for mouse and keyboard
- One parallel port
- One serial port
- One VGA port
- Four back-panel USB2.0 ports
- One LAN port
- Audio jacks for microphone, line-in and 6/8-channel (optional) line-out

Fast Ethernet LAN

- **10Base-T/100BASE-TX** IEEE 802.3u fast Ethernet transceiver
- Low-power mode
- MII and 7-wire serial interface

USB 2.0

- Compliant with Universal Serial Bus Specification Revision 2.0
- Compliant with Open Host Controller Interface Specification Revision 1.1

BIOS Firmware

This motherboard uses Award BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters and memory timing
- CPU and memory timing

The firmware can also be used to set parameters for different processor clock speeds.

Dimensions

- Micro-ATX form factor of 244 x 214 mm

Note: Hardware specifications and software items are subject to change without notification.

Package Contents

Your motherboard package ships with the following items:

- ☐ The motherboard
- ☐ The User's Guide
- ☐ One diskette drive ribbon cable (optional)
- ☐ One IDE drive ribbon cable
- ☐ The Software support CD

Optional Accessories

You can purchase the following optional accessories for this motherboard.

- ☐ The Extended USB module
- ☐ The Serial ATA cable
- ☐ The Serial ATA power cable

Note: You can purchase your own optional accessories from the third party, but please contact your local vendor on any issues of the specification and compatibility.

Chapter 2 Motherboard Installation

To install this motherboard in a system, please follow these instructions in this chapter:

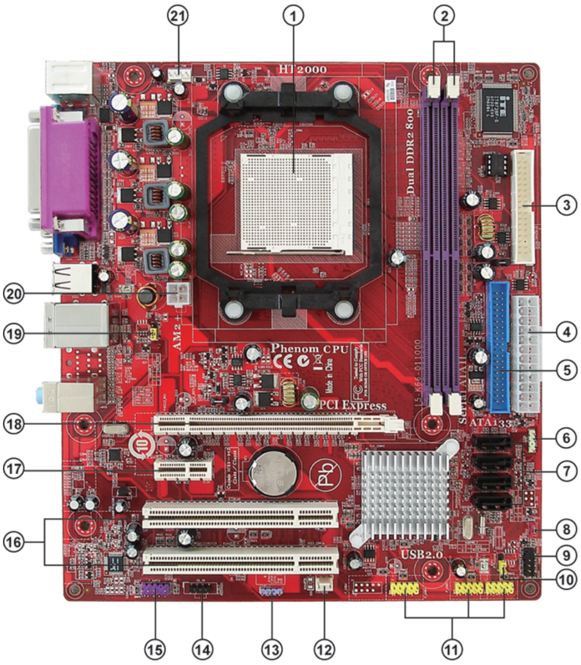
- ☐ Identify the motherboard components
- ☐ Install a CPU
- ☐ Install one or more system memory modules
- ☐ Make sure all jumpers and switches are set correctly
- ☐ Install this motherboard in a system chassis (case)
- ☐ Connect any extension brackets or cables to headers/connectors on the motherboard
- ☐ Install peripheral devices and make the appropriate connections to headers/ connectors on the motherboard

Note:

1 Before installing this motherboard, make sure jumper CLR_CMOS is under Normal setting. See this chapter for information about locating CLR_CMOS and the setting options.

2 Never connect power to the system during installation; otherwise, it may damage the motherboard.

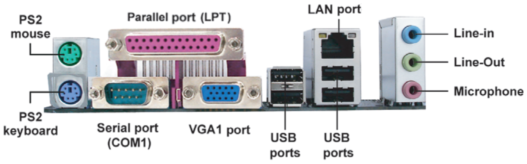
Motherboard Components

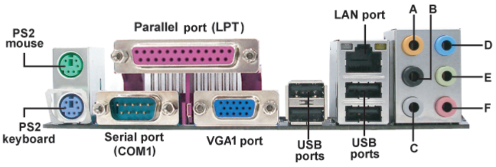


ITEM	LABEL	COMPONENTS
1	CPU Socket	Socket AM2+/AM2 for AMD Phenom$^{\text{TM}}$/Athlon$^{\text{TM}}$ 64 X2 Dual-Core/Athlon$^{\text{TM}}$ 64/Sempron$^{\text{TM}}$ processors
2	DIMM1~2	240-pin DDR2 SDRAM slots
3	FDD	Floppy disk drive connector
4	PWR1	Standard 24-pin ATX power connector
5	IDE1	Primary IDE connector
6	SPK1	Speaker header
7	SATA1~4	Serial ATA connectors
8	CLR_CMOS	Clear CMOS jumper
9	PANEL1	Front panel switch/LED header
10	USBPWR_F	Front Panel USB Power Select Jumper
11	F_USB1~3	Front Panel USB headers
12	SYS_FAN	System cooling fan connector
13	SPDIFO1	SPDIF out header
14	CD_IN	Analog audio input header
15	F_AUDIO	Front panel audio header
16	PCI1~2	32-bit add-on card slots
17	PCIEX1	PCI Express x1 slot
18	PCIEX16	PCI Express x16 slot for graphics interface
19	USBPWR_R	Rear Panel USB PS/2 Power Select Jumper
20	PWR2	4-pin +12V power connector
21	CPU_FAN	CPU cooling fan connector

I/O Ports (optional)

The illustration below shows a side view of the built-in I/O ports on the motherboard.


PS2
mouse
Parallel port (LPT)
LAN port
Line-in
Line-Out
Microphone
PS2
keyboard
Serial port
(COM1)
VGA1 port
USB
ports
USB
ports


PS2
mouse
Parallel port (LPT)
LAN port
A
B
D
E
F
PS2
keyboard
Serial port
(COM1)
VGA1 port
USB
ports
USB
ports
C

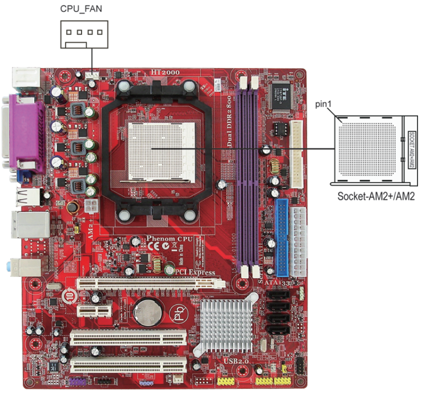
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the low er PS/2 port to connect a PS/2 keyboard.
Parallel Port (LPT)	Use the Parallel port to connect printers or other parallel communications devices.
Serial Port (COM1)	Use the COM port to connect serial devices such as mice or fax/modems.
VGA1 Port	Use the VGA1 port to connect the VGA devices.
LAN Port	Connect an RJ-45 jack to the LAN port to connect your computer to the Netw ork.
USB Ports	Use the USB ports to connect USB devices.
Audio Ports (optional)	Use these three audio jacks to connect audio devices. The first jack is for stereo Line-In signal, the second jack for stereo Line-Out signal, and the third jack for Microphone.
	Use these audio jacks to connect audio devices. The Aport is for stereo Line-In signal, w hlie the C port is for microphone in signal. The motherboard supports 8-channel audio devices that correspond to A, B, D and E port respectively. In addition, all of the three ports, A, B and D provide users w ith both right & left channels individually.

Installing the Processor

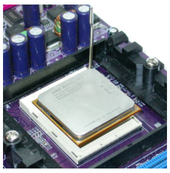
This motherboard has an AM2+/AM2 processor socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

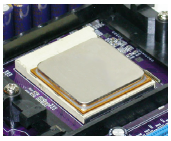
CPU Installation Procedure

Follow these instructions to install the CPU:



1. Unhook the locking lever of the CPU socket. Pull the locking lever away from the socket and raising it to the upright position.
2. Match the pin1 corner marked as the beveled edge on the CPU with the pin1 corner on the socket. Insert the CPU into the socket. Do not use force.
3. Push the locking lever down and hook it under the latch on the edge of socket.
4. Apply thermal grease to the top of the CPU.
5. Install the cooling fan/heatsink unit onto the CPU, and secure them all onto the socket base.
6. Plug the CPU fan power cable into the CPU fan connector (CPU_FAN) on the motherboard.



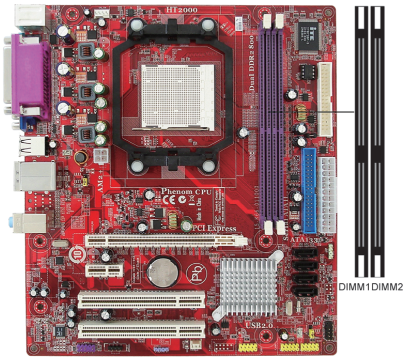


Note: To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 4800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary.

Installing Memory Modules

This motherboard accommodates two 240-pin DIMM sockets (Dual Channel Memory Module) for unbuffered **DDR2 800**/667/533/400 memory modules (Double Data Rate SDRAM), and maximum 16* GB installed memory.

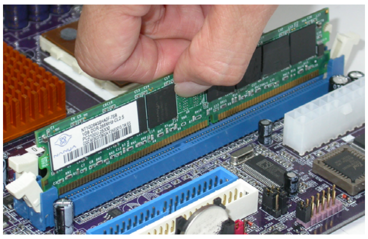
Over its predecessor, DDR2-SDRAM offers greater bandwidth and density in a smaller package along with a reduction in power consumption. In addition, DDR2-SDRAM offers new features and functions that enable a higher clock rate and data rate operations of 800/667/533/400 MHz. DDR2 transfers 64 bits of data twice every clock cycle.



Memory Module Installation Procedure

These modules can be installed with up to 16* GB system memory. Refer to the following to install the memory module.

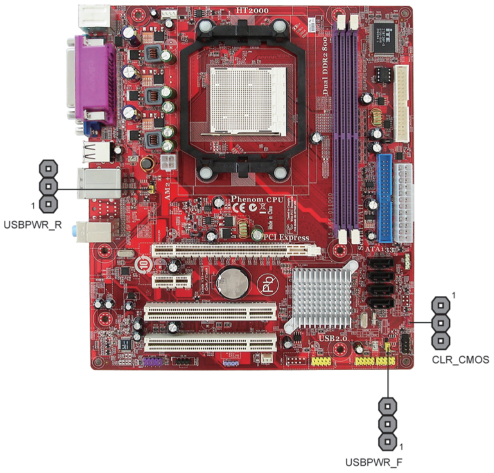
1. Push down the latches on both sides of the DIMM socket.
2. Align the memory module with the socket. There is a notch on the DIMM socket that you can install the DIMM module in the correct direction. Match the cutout on the DIMM module with the notch on the DIMM socket.
3. Install the DIMM module into the socket and press it firmly down until it is seated correctly. The socket latches are levered upwards and latch on to the edges of the DIMM.
4. Install any remaining DIMM modules.



Note for dual-channel DDR2:
1. You CAN NOT use only one DIMM2 for it might cause the system shutdown.
2. You need to use DIMM1 and DIMM2 with the same size of memory modules.

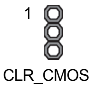
Jumper Settings

Connecting two pins with a jumper cap is SHORT; removing a jumper cap from these pins, OPEN.



CLR_CMOS: Clear CMOS Jumper

Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your motherboard from operating. To clear the CMOS memory, disconnect all the power cables from the motherboard and then move the jumper cap into the CLEAR setting for a few seconds.

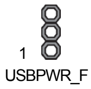


Function	Jumper
NORMAL	Short Pins 1-2
CLEAR CMOS	Short Pins 2-3

Note: To avoid the system unstability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Optimal De-faults" and then "Save Changes and Exit".

USBPWR_F: FRONT PANEL USB POWER SELECT Jumper

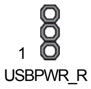
Use this jumper to set the Front Panel USB Power function.



Function	Jumper Setting
VCC5	Short Pins 1-2
VCC5_DUAL	Short Pins 2-3

USBPWR_R: REAR USB PS/2 POWER SELECT Jumper

Use this jumper to set the Rear USB PS/2 Power function.



Function	Jumper Setting
VCC5	Short Pins 1-2
VCC5_DUAL	Short Pins 2-3

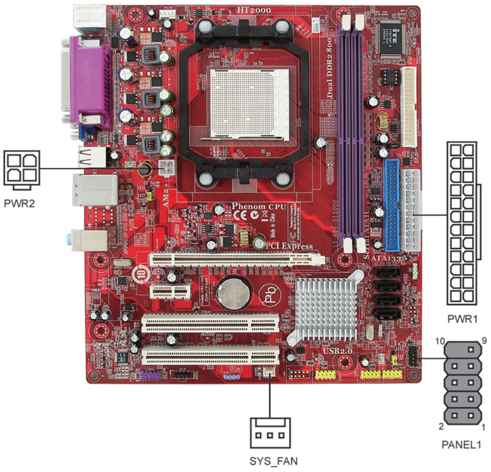
Note:1. Make sure the power supply provides enough VCC5_DUAL voltage before selecting the VCC5_DUAL function.

2. It is required that users place the USBPWR_F & USBPWR_R cap onto 2-3 pin rather than 1-2 pin as default if you want to wake up the computer by USB/PS2 KB/Mouse.

Install The Motherboard

Install the motherboard in a system chassis (case). The board is an micro-ATX size motherboard. You can install this motherboard in an ATX case. Make sure your case has an I/O cover plate matching the ports on this motherboard.

Install the motherboard in a case. Follow the case manufacturer’s instructions to use the hardware and internal mounting points on the chassis.



Connect the power connector from the power supply to the **PWR1** connector on the motherboard. **PWR2** is a +12V connecotr for CPU Vcore power.

If there is a cooling fan installed in the system chassis, connect the system cooling fan cable to the **SYS_FAN** fan power connector on the motherboard.

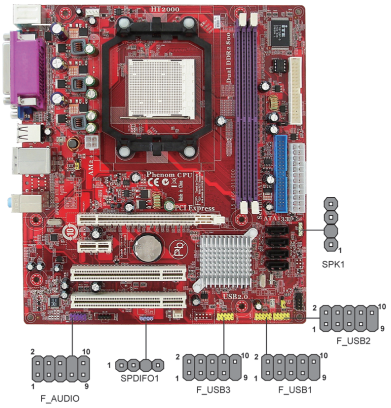
Connect the case switches and indicator LEDs to the **PANEL1** header.

Here is a list of the PANEL1 pin assignments.

Pin	Signal	Pin	Signal
1	HD_LED_P(+)	2	FP PWR/SLP(+)
3	HD_LED_N(-)	4	FP PWR/SLP(-)
5	RESET_SW_N(-)	6	POWER_SW_P(+)
7	RESET_SW_P(+)	8	POWER_SW_N(-)
9	RSVD	10	KEY

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



SPK1: Speaker Header

Connect the cable from the PC speaker to the SPK1 header on the motherboard.

Pin	Signal
1	VCC
2	Key
3	GND
4	Signal

F_AUDIO: Front Panel Audio Header (optional)

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal	Pin	Signal
1	PORT 1L	2	GND
3	PORT 1R	4	PRESENCE#
5	PORT 2R	6	Sense1_return
7	SENCE_SEND	8	KEY
9	PORT 2L	10	Sense2_return

F_USB1~3: Front Panel USB Headers

The motherboard has USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB headers F_USB1~3 to connect the front-mounted ports to the motherboard.

Here is a list of USB pin assignments.

Pin	Signal	Pin	Signal
1	USBPWR0	2	USBPWR0
3	USB_FP_P0(-)	4	USB_FP_P1(-)
5	USB_FP_P0(+)	6	USB_FP_P1(+)
7	GND	8	GND
9	KEY	10	USB_FP_OC0

1. Locate the F_USB1~3 header on the motherboard.
2. Plug the bracket cable onto the F_USB1~3 header.
3. Remove a slot cover from one of the expansion slots on the system chassis. Install an extension bracket in the opening. Secure the extension bracket to the chassis with a screw.

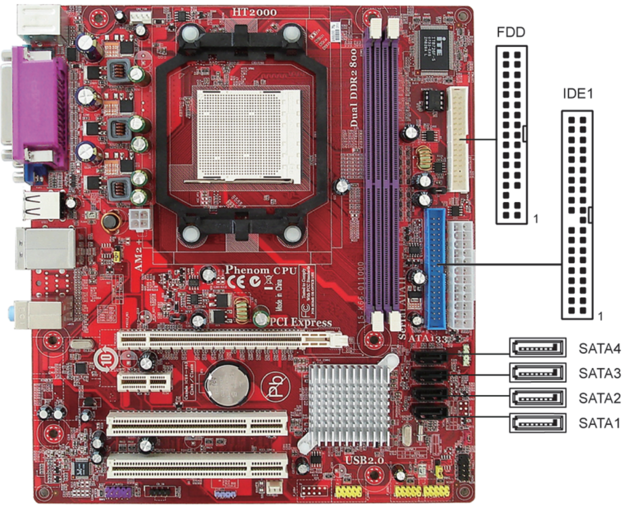
SPDIFO1: S/PIF Out Header

S/PDIF (Sony/Plilips Digital Interface) is a standard audio transfer file format and allows the transfer of digatal audio signals from one device to another without having to be converted first to an analog format. Via a specific audio cable, you can connect the SPDIFO1 header (S/PDIF output) on the motherboard to the S/PDIF digital input on the external speakers or AC Decode devices.

Pin	Signal
1	SPDIFOUT
2	5VA
3	Key
4	GND

Install Other Devices

Install and connect any other devices in the system following the steps below.



Floppy Disk Drive

The motherboard ships with a floppy disk drive cable that can support one or two drives. Drives can be 3.5" or 5.25" wide, with capacities of 360K, 720K, 1.2MB, 1.44MB, or 2.88MB.

Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector **FDD**.

IDE Devices

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.

The mainboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable.

Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector **IDE1** on the motherboard.

Serial ATA Devices

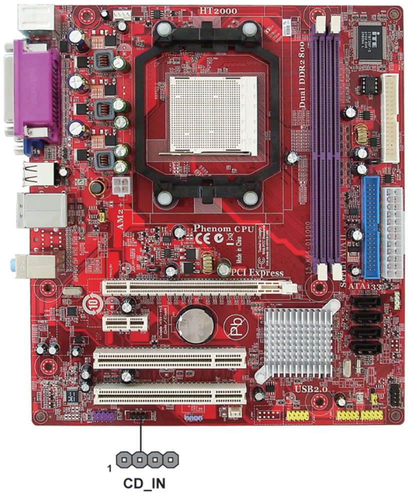
The **Serial ATA (Advanced Technology Attachment)** is the standard interface for the IDE hard drives, which is designed to overcome the design limitations while enabling the storage interface to scale with the growing media rate demands of PC platforms. It provides you a faster transfer rate of **3.0 Gb/s**. If you have installed a Serial ATA hard drive, you can connect the Serial ATA cables to the Serial ATA hard drive or the connector on the motherboard.

On the motherboard, locate the Serial ATA connectors **SATA1-4**, which support new Serial ATA devices for the highest data transfer rates, simpler disk drive cabling and easier PC assembly.

It eliminates limitations of the current Parallel ATA interface, but maintains register compatibility and software compatibility with Parallel ATA.

Analog Audio Input Header

If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.



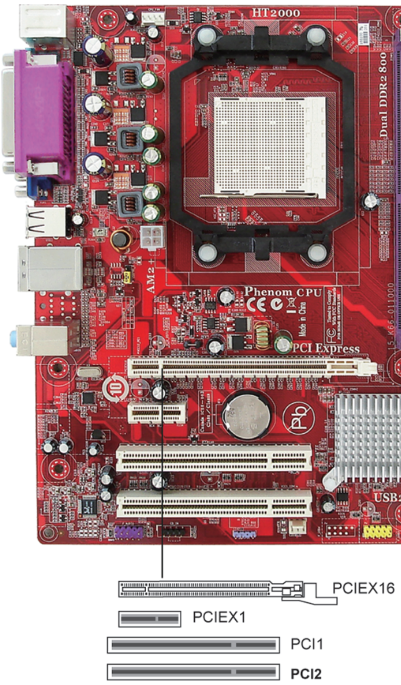
When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn’t, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin header **CD_IN**.

Here is a list of CD_IN pin assignments.

Pin	Signal
1	CD_L
2	GND
3	GND
4	CD_R

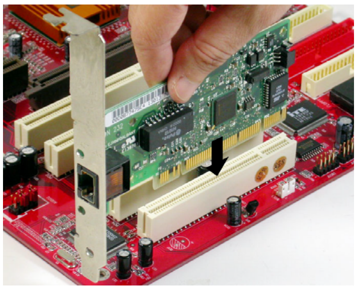
Expansion Slots

This motherboard has one PCI Ex16 slot (MCP61S only supports PCI Express x8), one PCI Ex1 slot and two 32-bit PCI slots.


PCIEX16
PCIEX1
PCI1
PCI2

Follow the steps below to install an PCI Express x16/PCI Express x1/PCI expansion card.

1. Locate the PCI Express x16, PCI Express x1 and PCI slots on the mainboard.
2. Remove the blanking plate of the slot from the system chassis.
3. Install the edge connector of the expansion card into the slot. Ensure the edge connector is correctly seated in the slot.
4. Secure the metal bracket of the card to the system chassis with a screw.



PCI Express x16 slot

The one PCI Express x16 slot is fully compliant to the PCI Express Base Specification revision 1.1 as well.

PCI Express x1 Slot

The one PCI Express x1 slot is fully compliant to the PCI Express Base Specification revision 1.1 as well.

PCI Slots

You can install the 32-bit PCI interface expansion cards in the slots.

Chapter 3 BIOS Setup Utility

Introduction

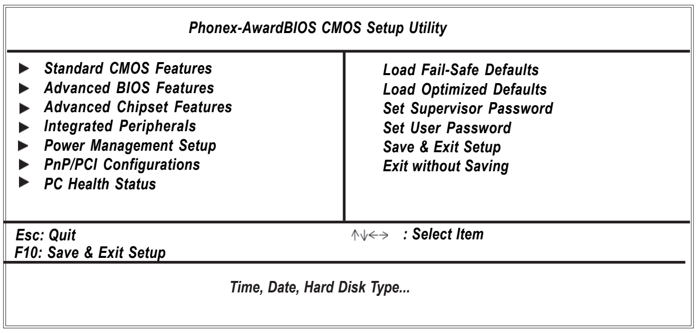
The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies the information to initialize all the components when booting up and basic functions of coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop your computer booting properly. If it happens, you can use the clear CMOS jumper to clear the CMOS memory which has stored the configuration information; or you can hold down the **Page Up** key while rebooting your computer. Holding down the **Page Up** key also clears the setup information.

You can run the setup utility and manually change the configuration. You might need to do this to configure some hardware installed in or connected to the motherboard, such as the CPU, system memory, disk drives, etc.

Running the Setup Utility

Every time you start your computer, a message appears on the screen before the operating system loading that prompts you to "*Hit <DEL> if you want to run SETUP*". Whenever you see this message, press the **Delete** key, and the Main menu page of the Setup Utility appears on your monitor.



```
                 Phonex-AwardBIOS CMOS Setup Utility

► Standard CMOS Features            Load Fail-Safe Defaults
► Advanced BIOS Features            Load Optimized Defaults
► Advanced Chipset Features         Set Supervisor Password
► Integrated Peripherals            Set User Password
► Power Management Setup            Save & Exit Setup
► PnP/PCI Configurations            Exit without Saving
► PC Health Status

Esc: Quit                             ↑↓←→  : Select Item
F10: Save & Exit Setup

                    Time, Date, Hard Disk Type...
```

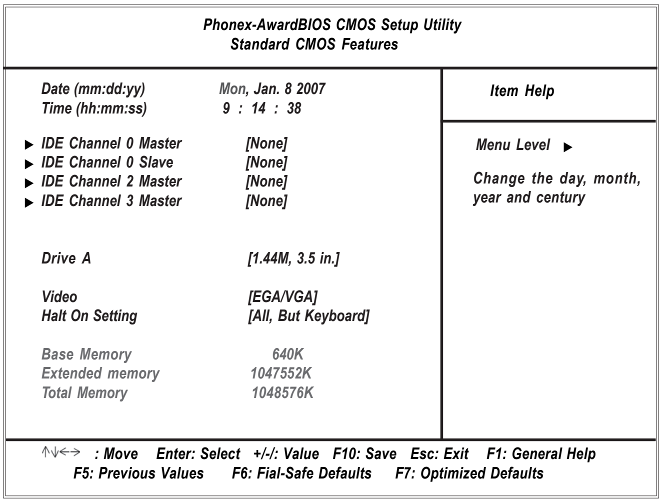
You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Press +/-/ to modify the selected field's values.

Some options on the main menu page lead to tables of items with installed values that you can use cursor arrow keys to highlight one item, and press **PgUp** and **PgDn** keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer OK or Cancel by selecting the **[OK]** or **[Cancel]** key.

If you have already changed the setup utility, press **F10** to save those changes and exit the utility. Press **F1** to display a screen describing all key functions. Press **F9** to install the setup utility with a set of default values.

Standard CMOS Features Page

This page displays a table of items defining basic information about your system.



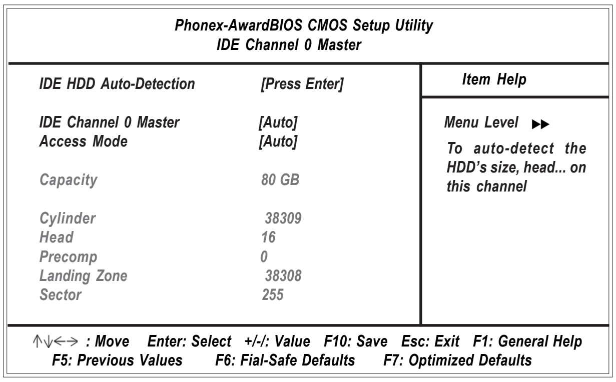
```
                 Phonex-AwardBIOS CMOS Setup Utility
                       Standard CMOS Features

   Date (mm:dd:yy)         Mon, Jan. 8 2007           Item Help
   Time (hh:mm:ss)          9  :  14  :  38
                                                    Menu Level  ►
 ► IDE Channel 0 Master      [None]
 ► IDE Channel 0 Slave       [None]                 Change the day, month,
 ► IDE Channel 2 Master      [None]                 year and century
 ► IDE Channel 3 Master      [None]


   Drive A                   [1.44M, 3.5 in.]

   Video                     [EGA/VGA]
   Halt On Setting           [All, But Keyboard]

   Base Memory                   640K
   Extended memory            1047552K
   Total Memory               1048576K

 ↑↓←→ : Move   Enter: Select   +/-/: Value   F10: Save   Esc: Exit   F1: General Help
       F5: Previous Values     F6: Fial-Safe Defaults     F7: Optimized Defaults
```

Date & Time

These items set up system date and time.

▸IDE Devices

Your computer has one IDE channel which can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel.



```
                 Phonex-AwardBIOS CMOS Setup Utility
                        IDE Channel 0 Master

IDE HDD Auto-Detection          [Press Enter]       Item Help

IDE Channel 0 Master            [Auto]            Menu Level ▸▸
Access Mode                     [Auto]            To auto-detect the
                                                  HDD's size, head... on
Capacity                        80 GB             this channel

Cylinder                         38309
Head                            16
Precomp                         0
Landing Zone                     38308
Sector                          255

↑↓←→ : Move   Enter: Select   +/-/: Value   F10: Save   Esc: Exit   F1: General Help
   F5: Previous Values      F6: Fial-Safe Defaults      F7: Optimized Defaults
```

IDE HDD Auto-Detection

Press <Enter> while this item is highlighted to prompt the Setup Utility to automatically detect and configure an IDE device on the IDE channel.

Note: If you are setting up a new hard disk drive that supports LBA mode, more than one line will appear in the parameter box. Choose the line that lists LBA for an LBA drive.

IDE Channel 0/2/3 Master & IDE Channel 0 Slave

Leave this item at Auto to enable the system to automatically detect and configure IDE devices on the channel. If it fails to find a device, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the items described below.

Note: Before attempting to configure a hard disk drive, ensure that you have the configuration information supplied by the manufacturer of your hard drive. Incorrect settings can result in your system not recognizing the installed hard disk.

Access Mode (Auto)

This item defines ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at Auto and the system will automatically decide the fastest way to access the hard disk drive.

Press <Esc> to return to the Standard CMOS Features page.

Drive A

This item define the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

Video

This item defines the video mode of the system. The motherboard has a built-in VGA graphics system; you must leave this item at the default value.

Halt On

This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

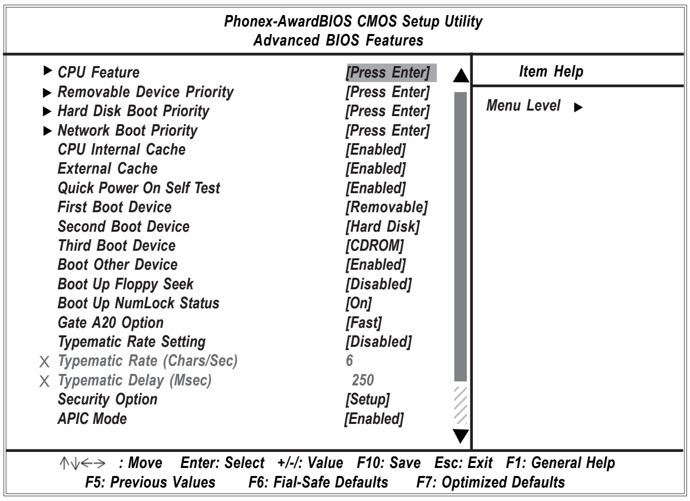
Base Memory, Extended Memory, and Total Memory

These items are automatically detected by the system at start up time. These are display-only fields. You cannot make changes to these fields.

Press <Esc> to return to the main menu setting page.

Advanced BIOS Features Page

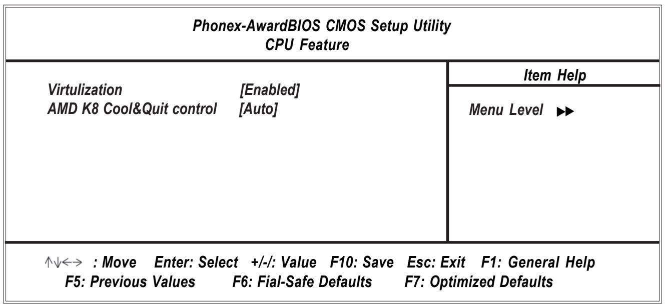
This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.



```
                 Phonex-AwardBIOS CMOS Setup Utility
                       Advanced BIOS Features

 ▶ CPU Feature                         [Press Enter]  ▲   Item Help
 ▶ Removable Device Priority           [Press Enter]
 ▶ Hard Disk Boot Priority             [Press Enter]      Menu Level ▶
 ▶ Network Boot Priority               [Press Enter]
   CPU Internal Cache                  [Enabled]
   External Cache                      [Enabled]
   Quick Power On Self Test            [Enabled]
   First Boot Device                   [Removable]
   Second Boot Device                  [Hard Disk]
   Third Boot Device                   [CDROM]
   Boot Other Device                   [Enabled]
   Boot Up Floppy Seek                 [Disabled]
   Boot Up NumLock Status              [On]
   Gate A20 Option                     [Fast]
   Typematic Rate Setting              [Disabled]
 X Typematic Rate (Chars/Sec)          6
 X Typematic Delay (Msec)               250
   Security Option                     [Setup]
   APIC Mode                           [Enabled]      ▼

 ↑↓←→ : Move  Enter: Select  +/-/: Value  F10: Save  Esc: Exit  F1: General Help
      F5: Previous Values    F6: Fial-Safe Defaults    F7: Optimized Defaults
```

▸CPU Feature (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Phonex-AwardBIOS CMOS Setup Utility
CPU Feature

Virtulization [Enabled]
AMD K8 Cool&Quit control [Auto]

Item Help

Menu Level ▸▸

↑↓←→ : Move Enter: Select +/-/: Value F10: Save Esc: Exit F1: General Help
F5: Previous Values F6: Fial-Safe Defaults F7: Optimized Defaults

Virtualization

Hardware Virtualization Technology enables processor feature for running multiple simultaneous Virtual Machines allowing specialized software applications to run in full isolation of each other.

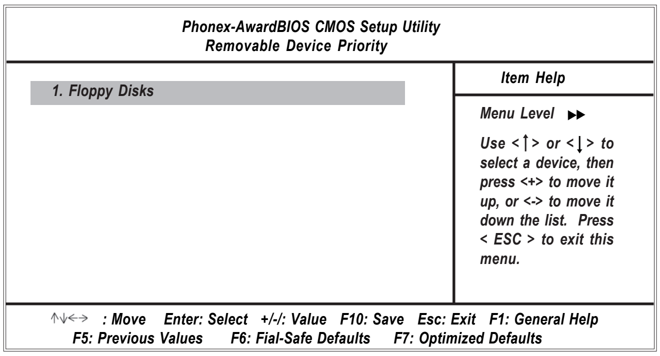
AMD K8 Cool & Quiet Control

This item helps the system to lower the frequency when CPU idles. When the frequency decreases, the temperature will drop automatically as well.

Press <Esc> to return to Advanced BIOS Features page.

▸ Removable Device Priority (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Phonex-AwardBIOS CMOS Setup Utility
Removable Device Priority

1. Floppy Disks

Item Help

Menu Level ▸▸

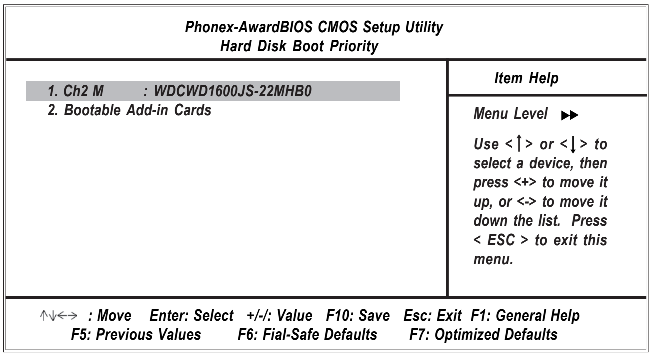
Use <↑> or <↓> to select a device, then press <+> to move it up, or <-> to move it down the list. Press < ESC > to exit this menu.

↑↓←→ : Move Enter: Select +/-/: Value F10: Save Esc: Exit F1: General Help
F5: Previous Values F6: Fial-Safe Defaults F7: Optimized Defaults

Press <Esc> to return to Advanced BIOS Features page.

▸ Hard Disk Boot Priority (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Phonex-AwardBIOS CMOS Setup Utility
Hard Disk Boot Priority

1. Ch2 M : WDCWD1600JS-22MHB0
2. Bootable Add-in Cards

Item Help

Menu Level ▸▸

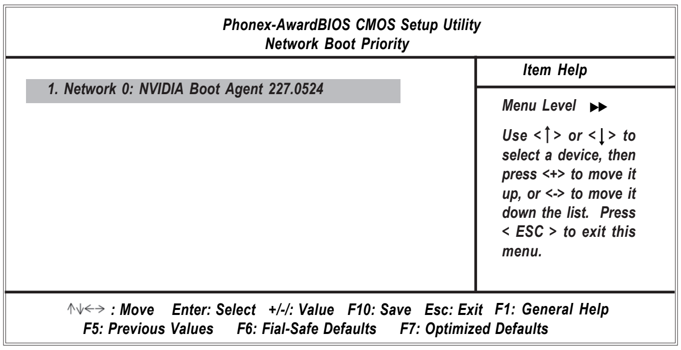
Use <↑> or <↓> to select a device, then press <+> to move it up, or <-> to move it down the list. Press < ESC > to exit this menu.

↑↓←→ : Move Enter: Select +/-/: Value F10: Save Esc: Exit F1: General Help
F5: Previous Values F6: Fial-Safe Defaults F7: Optimized Defaults

Press <Esc> to return to Advanced BIOS Features page.

▸ CD-ROM Boot Priority (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Phonex-AwardBIOS CMOS Setup Utility
Network Boot Priority

1. Network 0: NVIDIA Boot Agent 227.0524

Item Help

Menu Level ▸▸

Use <↑> or <↓> to select a device, then press <+> to move it up, or <-> to move it down the list. Press < ESC > to exit this menu.

↑↓←→ : Move Enter: Select +/-/: Value F10: Save Esc: Exit F1: General Help
F5: Previous Values F6: Fial-Safe Defaults F7: Optimized Defaults

Press <Esc> to return to Advanced BIOS Features page.

CPU Internal Cache

All processors that can be installed in this motherboard use internal level 1 (L1) cache memory to improve performance. Leave this item at the default value for better performance.

External Cache

Most processors that can be installed in this system use external level 2 (L2) cache memory to improve performance. Leave this item at the default value for better performance.

Quick Power On Self Test

Enable this item to shorten the power on testing (POST) and have your system start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

First/Second/Third Boot Device

Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time.

Boot Other Device

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

Boot Up Floppy Seek

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with

Boot Up NumLock Status

This item defines if the keyboard Num Lock key is active when your system is started.

Gate A20 Option

This item defines how the sytem handles legacy software that was written for an earlier generation of processors. Leave this item at the default value.

Typematic Rate Setting

If this item is enabled, you can use the following two items to set the typematic rate and the typematic delay settings for your keyboard.

- **Typematic Rate (Chars/Sec)**: Use this item to define how many characters per second are generated by a held-down key.
- **Typematic Delay (Msec):** Use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.

Security Option

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.

APIC Mode

This item allows you to enable or disable the APIC (Advanced Programmable Interrupt Controller) mode. APIC provides symmetric multi-processing (SMP) for systems, allowing support for up to 60 processors.

MPS Version Control For OS

This item displays MPS version control for OS.

Small Logo (EPA) Show

Enables or disables the display of the EPA logo during boot.

Summary Screen Show

Enables or disables the display of the summary screen during boot.

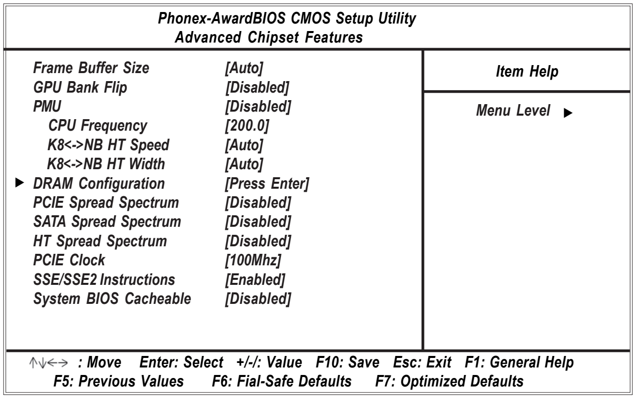
ATA 66/100 IDE Cable Msg.

This item enables or disables the display of the ATA 66/100 Cable MSG.

Press <Esc> to return to the main menu setting page.

Advanced Chipset Features Page

These items define critical timing parameters of the motherboard. You should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.



```
                Phonex-AwardBIOS CMOS Setup Utility
                    Advanced Chipset Features

    Frame Buffer Size          [Auto]              Item Help
    GPU Bank Flip              [Disabled]
    PMU                        [Disabled]        Menu Level  ▶
      CPU Frequency            [200.0]
      K8<->NB HT Speed         [Auto]
      K8<->NB HT Width         [Auto]
  ▶ DRAM Configuration         [Press Enter]
    PCIE Spread Spectrum       [Disabled]
    SATA Spread Spectrum       [Disabled]
    HT Spread Spectrum         [Disabled]
    PCIE Clock                 [100Mhz]
    SSE/SSE2 Instructions      [Enabled]
    System BIOS Cacheable      [Disabled]

  ↑↓←→ : Move   Enter: Select   +/-/: Value   F10: Save   Esc: Exit   F1: General Help
     F5: Previous Values     F6: Fial-Safe Defaults     F7: Optimized Defaults
```

Frame Buffer Size

This item enables users to specify the Onboard VGA share memory size.

GPU Bank Flip

This item enables or disables GPU Bank flip.

PMU

This item enables or disables ACPI power management unit function.

K8<->NB HT Speed

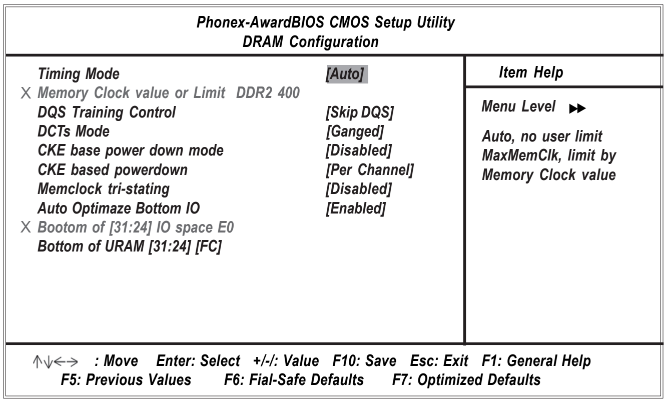
This item enables users to set the speed of HyperTransport between the CPU and Northbridge.

K8 <-> NB HT Width

This item enables users to set the HyperTransport width between CPU and the Northbridge .

▸ DRAM Configuration (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



```
                 Phonex-AwardBIOS CMOS Setup Utility
                         DRAM Configuration

   Timing Mode                              [Auto]          Item Help
 X Memory Clock value or Limit  DDR2 400
   DQS Training Control                     [Skip DQS]      Menu Level  ▸▸
   DCTs Mode                                [Ganged]
   CKE base power down mode                 [Disabled]      Auto, no user limit
   CKE based powerdown                      [Per Channel]   MaxMemClk, limit by
   Memclock tri-stating                     [Disabled]      Memory Clock value
   Auto Optimaze Bottom IO                  [Enabled]
 X Bootom of [31:24] IO space E0
   Bottom of URAM [31:24] [FC]

  ↑↓←→  : Move   Enter: Select  +/-/: Value  F10: Save  Esc: Exit  F1: General Help
     F5: Previous Values     F6: Fial-Safe Defaults     F7: Optimized Defaults
```

Timing Mode

This item allows you to set up the DRAM timing nanually or automatically.

- ***Memory Clock value or Limi (DDR2 400)*** When DDR2 Timing Setting by is set to Manual, use this item to set the DRAM frequency.

DQS Training Control

DQS training is used to place the DQS strobe in the center of the data eye.

DCTs Mode

This item is used to select the mode of Dram ConTrollers.

CKE base power down mode

When in power down mode, if all pages of the DRAMs associated with a CKE pin are closed, then these parts are placed in power down mode. Only pre-charge power down mode is supported, not active power down mode.

CKE based powerdown

The DRAM channel is placed in power down when all chip selects associated with the channel are idle.

Memclock tri-stating

This item enables or disables memclock tri-stating function.

Auto Optimize Bottom IO

This item is used to set the Auto Optimized Bottom IO.

- ***Bottom of [31:24] IO space (E0)*** This item is used to select the memory that will be remapped higher than 00E0.

Bottom of UMA DRAM [31:24] (FC)

This item is used to set the bottom of UMA DRAM [31:24]. We strongly recommend that you leave this item at its default setting.

Press <Esc> to return to Advanced Chipset Features page.

PCIE Spread Spectrum

This item, when enabled, can significantly reduce the EMI (Electromagnetic Interference) generated by the PCIE.

SATA Spread Spectrum

This item, when enabled, can significantly reduce the EMI (Electromagnetic Interference) generated by the SATA.

HT Spread Spectrum

This item, when enabled, can significantly reduce the EMI (Electromagnetic Interference) generated by the HT.

PCIE Clock

This item is used to set the frequency of PCIE clock.

SSE/SSE2 Instructions

This item enables or disables SSE/SSE2 instructions.

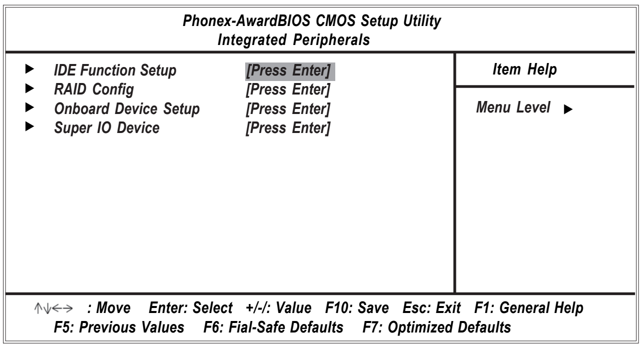
System BIOS Cacheable

This item enables users to enable or disable the system BIOS cache.

Press <Esc> to return to the main menu setting page.

Integrated Peripherals Page

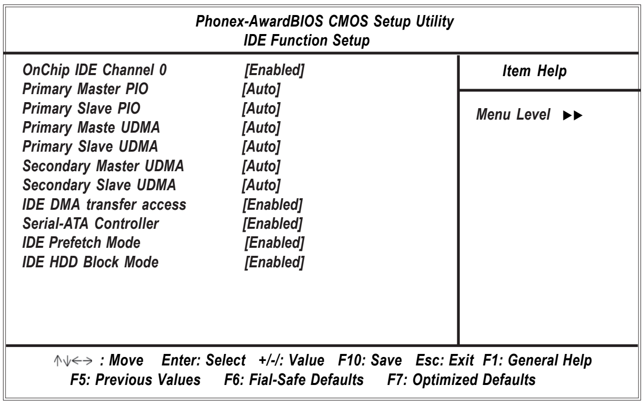
These options display items that define the operation of peripheral components on the system's input/output ports.



```
                 Phonex-AwardBIOS CMOS Setup Utility
                        Integrated Peripherals

 ►  IDE Function Setup       [Press Enter]     |   Item Help
 ►  RAID Config              [Press Enter]     |
 ►  Onboard Device Setup     [Press Enter]     |  Menu Level  ►
 ►  Super IO Device          [Press Enter]     |

 ↑↓←→  : Move    Enter: Select   +/-/: Value   F10: Save   Esc: Exit   F1: General Help
    F5: Previous Values    F6: Fial-Safe Defaults    F7: Optimized Defaults
```

►IDE Function Setup (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



```
                 Phonex-AwardBIOS CMOS Setup Utility
                        IDE Function Setup

 OnChip IDE Channel 0          [Enabled]      |   Item Help
 Primary Master PIO            [Auto]         |
 Primary Slave PIO             [Auto]         |  Menu Level  ►►
 Primary Maste UDMA            [Auto]         |
 Primary Slave UDMA            [Auto]         |
 Secondary Master UDMA         [Auto]         |
 Secondary Slave UDMA          [Auto]         |
 IDE DMA transfer access       [Enabled]      |
 Serial-ATA Controller         [Enabled]      |
 IDE Prefetch Mode             [Enabled]      |
 IDE HDD Block Mode            [Enabled]      |

 ↑↓←→ : Move    Enter: Select   +/-/: Value   F10: Save   Esc: Exit  F1: General Help
    F5: Previous Values    F6: Fial-Safe Defaults    F7: Optimized Defaults
```

On-Chip IDE Channel 0

Use these items to enable or disable the PCI IDE channels that are integrated on the motherboard.

Primary Master/Slave PIO

Each IDE channel supports a master device and a slave device. These four items let you assign the kind of PIO (Programmed Input/Output) was used by the IDE devices. Choose Auto to let the system auto detect which PIO mode is best, or select a PIO mode from 0-4.

Primary/Secondary Master/Slave UDMA

Each IDE channel supports a master device and a slave device. This motherboard supports UltraDMA technology, which provides faster access to IDE devices.

If you install a device that supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this motherboard in order to use an UltraDMA device.

IDE DMA transfer access

This item allows you to enable the transfer access of the IDE DMA then burst onto the PCI bus and nonburstable transactions do not.

Serial-ATA Controller

This item allows you to enable or disable the onboard SATA controller.

IDE Prefetch Mode

The onboard IDE drive interface supports IDE prefetching, for faster drive access. If you install a primary and secondary add-in IDE interface, set this field to Disabled if the interface does not support prefetching.

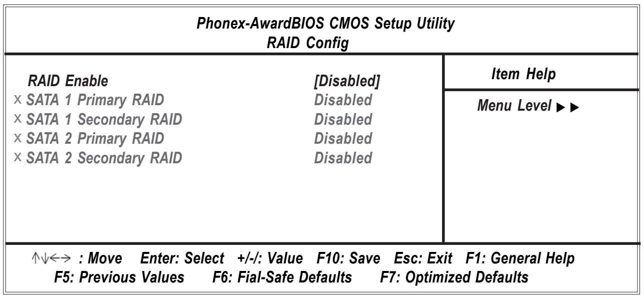
IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode, select Enabled for automatic detection of the optimal number of block read/write per sector the drive can support.

Press <Esc> to return to the Integrated Peripherals page.

▶ RAID Configuration (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



```
                Phonex-AwardBIOS CMOS Setup Utility
                            RAID Config

  RAID Enable                       [Disabled]      Item Help
x SATA 1 Primary RAID               Disabled
x SATA 1 Secondary RAID             Disabled       Menu Level ▶▶
x SATA 2 Primary RAID               Disabled
x SATA 2 Secondary RAID             Disabled

 ↑↓←→ : Move   Enter: Select   +/-/: Value   F10: Save   Esc: Exit   F1: General Help
    F5: Previous Values     F6: Fial-Safe Defaults     F7: Optimized Defaults
```

RAID Enable

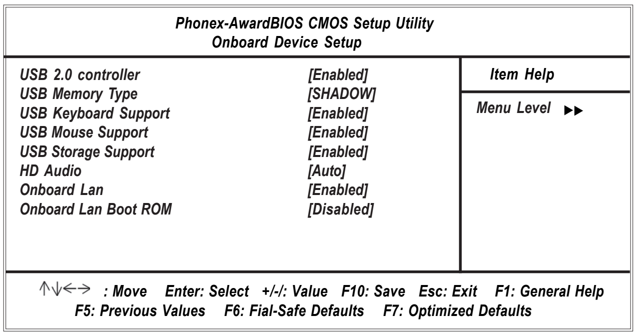
This item allows you to enable or disable the onboard RAID function of RAID function of RAID supporting devices.

- ***SATA 1/2 Primary/Secondary RAID (Disabled):*** These four items enable or disable the SATA 1/2 Primary/Secondary RAID.

Press <Esc> to return to the Integrated Peripherals page.

▶ Onboard Device Setup (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



```
                 Phonex-AwardBIOS CMOS Setup Utility
                         Onboard Device Setup

USB 2.0 controller                 [Enabled]      Item Help
USB Memory Type                    [SHADOW]
USB Keyboard Support               [Enabled]      Menu Level  ▶▶
USB Mouse Support                  [Enabled]
USB Storage Support                [Enabled]
HD Audio                           [Auto]
Onboard Lan                        [Enabled]
Onboard Lan Boot ROM               [Disabled]

  ↑↓←→ : Move   Enter: Select   +/-/: Value   F10: Save   Esc: Exit   F1: General Help
        F5: Previous Values    F6: Fial-Safe Defaults    F7: Optimized Defaults
```

USB 2.0 controller

Enables this item if you want to use USB 2.0.

USB Memory Type

This item indicates the USB memory type.

USB Keyboard Support

Enable this item if you plan to use a keyboard connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

USB Mouse Support

Enable this item if you plan to use a mouse connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

USB Storage Support

Use this item to enable or disable the USB Storage function.

HD Audio

Enables and disables the onboard audio chip. Disable this item if you are going to install a PCI audio add-in card.

Onboard Lan

Enables or disables the Onboard Lan.

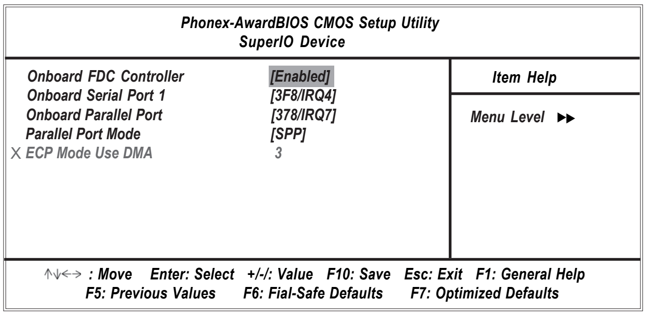
Onboard Lan Boot ROM

This item enables or disables LAN Boot ROM.

Press <Esc> to return to the Integrated Peripherals page.

▶ SuperIO Device (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



```
                 Phonex-AwardBIOS CMOS Setup Utility
                           SuperIO Device

   Onboard FDC Controller       [Enabled]     |  Item Help
   Onboard Serial Port 1        [3F8/IRQ4]    |
   Onboard Parallel Port        [378/IRQ7]    | Menu Level  ▶▶
   Parallel Port Mode           [SPP]         |
 X ECP Mode Use DMA              3            |

 ↑↓←→ : Move   Enter: Select   +/-/: Value   F10: Save   Esc: Exit   F1: General Help
        F5: Previous Values     F6: Fial-Safe Defaults     F7: Optimized Defaults
```

Onboard FDC Controller

This option enables the onboard floppy disk drive controller.

Onboard Serial Port 1

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 1/2.

Onboard Parallel Port

This item enables or disables the onboard parallel port, and assigns a port address. The Auto setting will detect the available address.

Parallel Port Mode

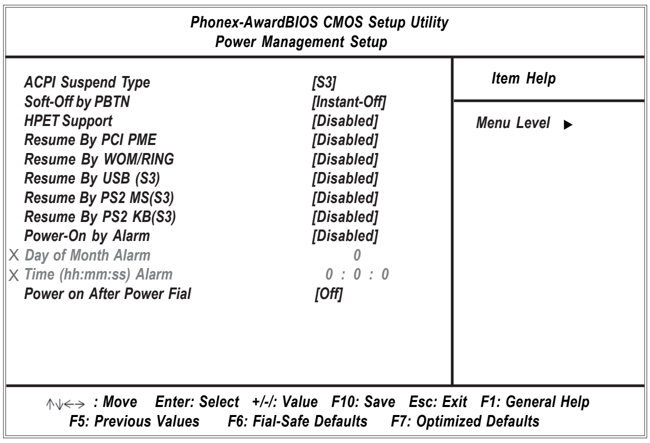
Use this item to select the parallel port mode. You can select Normal (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or BPP (Bi-Directional Parallel Port).

- ***ECP Mode Use DMA (3)***: When the onboard parallel port is set to ECP mode, the parallel port can use DMA3/1.

Press <Esc> to return to the main menu setting page.

Power Management Setup Page

This option lets you control system power management. The system has various power-saving modes including powering down the hard disk, turning off the video, suspending to RAM, and software power down that allows the system to be automatically resumed by certain events.



```
                 Phonex-AwardBIOS CMOS Setup Utility
                       Power Management Setup

  ACPI Suspend Type                   [S3]              Item Help
  Soft-Off by PBTN                    [Instant-Off]
  HPET Support                        [Disabled]      Menu Level  ▶
  Resume By PCI PME                   [Disabled]
  Resume By WOM/RING                  [Disabled]
  Resume By USB (S3)                  [Disabled]
  Resume By PS2 MS(S3)                [Disabled]
  Resume By PS2 KB(S3)                [Disabled]
  Power-On by Alarm                   [Disabled]
X Day of Month Alarm                      0
X Time (hh:mm:ss) Alarm                 0 : 0 : 0
  Power on After Power Fial           [Off]

  ↑↓←→ : Move   Enter: Select   +/-/: Value   F10: Save   Esc: Exit   F1: General Help
     F5: Previous Values    F6: Fial-Safe Defaults    F7: Optimized Defaults
```

ACPI Suspend Type

Use this item to define how your system suspends. In the default, S3 (STR), the suspend mode is a suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory.

Soft-Off by PBTN

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. then you have to hold the power button down for four seconds to cause a software power down

HPET Support

This item enables or disables HPET support.

Resume by PCI PME

This system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the PCI Modem card or PCI LAN card. You must use an ATX power supply inorder to use this feature. Use this item to do wake-up action if inserting the PCI card.

Resume by WOM/RING

An input signal on the serial Ring indicator (RI) line (in other words, and incoming call on the modem)/LAN awakens the system from a soft off state.

Resume By USB (S3)

This item allows users to enable or disable the USB device Walk-up from S3 mode.

Resume By PS2 MS/KB (S3)

These items enable or disable you to allow mouse or keyboard activity to awaken the system from power saving mode.

Power-On by Alarm

This item allows users to enable or disable the alarm to wake up the system. If set to Enabled, users can specify the specific day of month and the exact time to power up the system.

- **Date of Month Alarm**: Use this item to define the date of month when using the RTC alarm to resume the system.
- **Time (hh:mm:ss) Alarm**: Use this item to define the time when using the RTC alarm to resume the system.

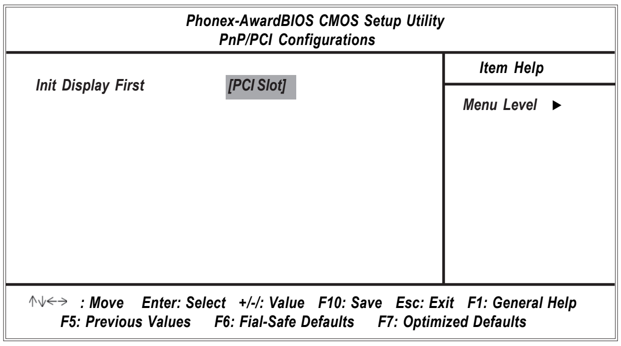
Power On After Power Fail

This item enables your computer to automatically restart or return to its last operating status.

Press <Esc> to return to the main menu setting page.

PnP/PCI Configurations Page

These options configure how PnP (Plug and Play) and PCI expansion cards operate in your system. Both the the ISA and PCI buses on the motherboard use system IRQs (Interrup ReQuests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations Setup utility for the motherboard to work properly. Selecting PnP/PCI Configurations on the main program screen displays this menu:



```
Phonex-AwardBIOS CMOS Setup Utility
PnP/PCI Configurations

Init Display First        [PCI Slot]          Item Help

                                              Menu Level  ►

↑↓←→ : Move   Enter: Select   +/-/: Value   F10: Save   Esc: Exit   F1: General Help
     F5: Previous Values   F6: Fial-Safe Defaults   F7: Optimized Defaults
```

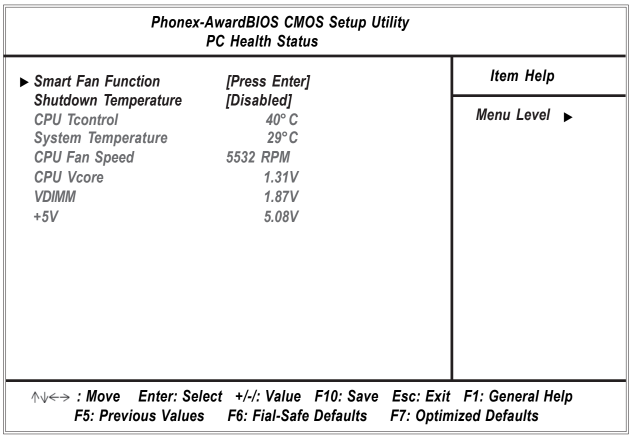
Init Display First

This item allows you to choose the primary display card.

Press <Esc> to return to the main menu setting page.

PC Health Status Page

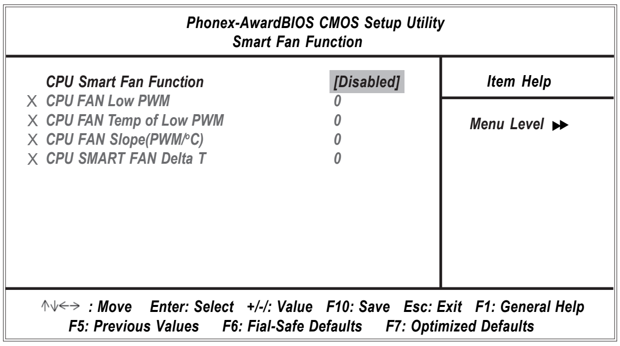
On motherboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.



```
Phonex-AwardBIOS CMOS Setup Utility
PC Health Status

► Smart Fan Function      [Press Enter]       Item Help
  Shutdown Temperature    [Disabled]
  CPU Tcontrol                 40° C          Menu Level  ►
  System Temperature           29°C
  CPU Fan Speed           5532 RPM
  CPU Vcore                    1.31V
  VDIMM                        1.87V
  +5V                          5.08V

↑↓←→ : Move   Enter: Select   +/-/: Value   F10: Save   Esc: Exit   F1: General Help
     F5: Previous Values   F6: Fial-Safe Defaults   F7: Optimized Defaults
```

▸ Smart Fan Function (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



```
                Phonex-AwardBIOS CMOS Setup Utility
                        Smart Fan Function

     CPU Smart Fan Function              [Disabled]      Item  Help
  X  CPU FAN Low PWM                      0
  X  CPU FAN Temp of Low PWM              0            Menu  Level  ▸▸
  X  CPU FAN Slope(PWM/ºC)                0
  X  CPU SMART FAN Delta T                0

  ↑↓←→ : Move   Enter: Select  +/-/: Value  F10: Save  Esc: Exit  F1: General Help
     F5: Previous Values     F6: Fial-Safe Defaults     F7: Optimized Defaults
```

CPU Smart Fan Function

These items enable you to define the CPU temperatur by smartly adjusting the CPU fan. When it is set at certain temperature, the CPU Fan PWM value will change accordingly.

Press <Esc> to return to thePC Health Status page.

Shutdown Temperature

Enables you to set the maximum temperature the system can reach before powering down.

System Component Characteristics

These fields provide you with information about the systems current operating status. You cannot make changes to these fields.

- CPU Tcontrol
- System Temperature
- CPU Fan Speed
- CPU Vcore
- Vdimm
- +5V

Press <Esc> to return to the main menu setting page.

Load Fail-Safe Defaults

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility:

Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select and display that option, and then press <F6>.

Load Optimized Defaults

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

Set Supervisor/User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

PASSWORD DISABLED

If you have selected "System" in "Security Option" of "BIOS Features Setup" menu, you will be prompted for the password every time the system reboots or any time you try to enter BIOS Setup.

If you have selected "Setup" at "Security Option" from "BIOS Features Setup" menu, you will be prompted for the password only when you enter BIOS Setup.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.

Save & Exit Setup

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu.

Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

Note: If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the motherboard.

Chapter 4 Software & Applications

Introduction

This chapter describes the contents of the support CD-ROM that comes with the motherboard package.

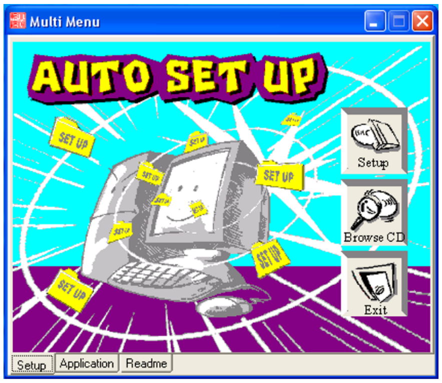
The support CD-ROM contains all useful software, necessary drivers and utility programs to properly run our products. More program information is available in a README file, located in the same directory as the software.

To run the support CD, simply insert the CD into your CD-ROM drive. An Auto Setup screen automatically pops out, and then you can go on the auto-installing or manual installation depending on your operating system.

If your operating system is Windows 2000/XP/Vista, it will automatically install all the drivers and utilities for your motherboard.

Installing Support Software

1. Insert the support CD-ROM disc in the CD-ROM drive.
2. When you insert the CD-ROM disc in the system CD-ROM drive, the CD automatically displays an Auto Setup screen.
3. The screen displays three buttons of **Setup**, **Browse CD** and **Exit** on the right side, and three others **Setup**, **Application** and **ReadMe** at the bottom. Please see the following illustration.



The **Setup** button runs the software auto-installing program as explained in next section.

The **Browse CD** button is a standard Windows command that you can check the contents of the disc with the Windows file browsing interface.

The **Exit** button closes the Auto Setup window. To run the program again, reinsert the CD-ROM disc in the drive; or click the CD-ROM driver from the Windows Explorer, and click the Setup icon.

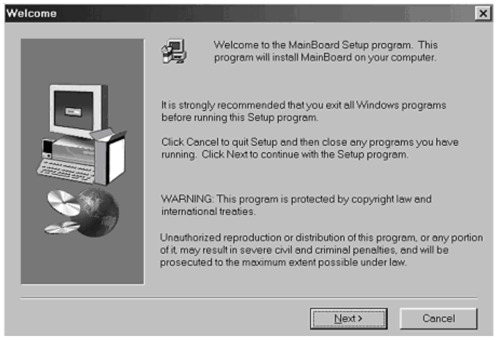
The **Application** button brings up a software menu. It shows the bundled software that this mainboard supports.

The **ReadMe** brings you to the Install Path where you can find out path names of software driver.

Auto-Installing under Windows 2000/XP/Vista

If you are under Windows 2000/XP/Vista, please click the **Setup** button to run the software auto-installing program while the Auto Setup screen pops out after inserting the support CD-ROM:

1 The installation program loads and displays the following screen. Click the **Next** button.



Welcome to the MainBoard Setup program. This program will install MainBoard on your computer.

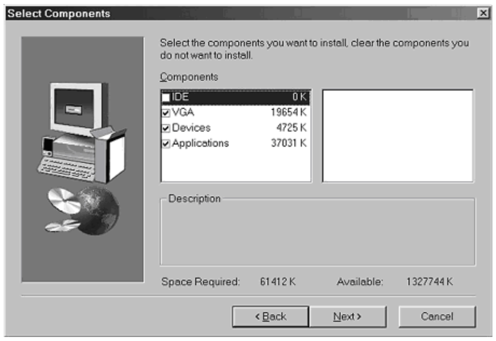
It is strongly recommended that you exit all Windows programs before running this Setup program.

Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.

WARNING: This program is protected by copyright law and international treaties.

Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.

2 Select the items that you want to setup by clicking on it (the default options are recommended). Click the **Next** button to proceed.



Select the components you want to install, clear the components you do not want to install.

☐ IDE 0 K
☑ VGA 19654 K
☑ Devices 4725 K
☑ Applications 37031 K

Space Required: 61412 K Available: 1327744 K

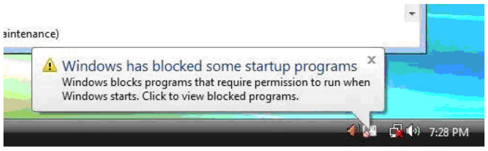
3 The support software will automatically install.

Once any of the installation procedures start, software is automatically installed in sequence. You need to follow the onscreen instructions, confirm commands and allow the computer to restart as few times as needed to complete installing whatever software you selected. When the process is finished, all the support software will be installed and start working.

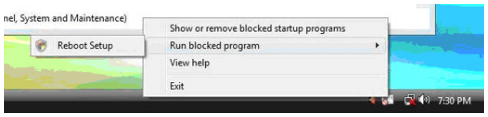
During the Windows Vista Driver Auto Setup Procedure, users should use one of the following two methods to install the driver after the system restart.

Method 1. Run Reboot Setup

Windows Vista will block startup programs by default when installing drivers after the system restart. You must select taskbar icon **Run Blocked Program** and run **Reboot Setup** to install the next driver, until you finish all drivers installation.


Windows has blocked some startup programs

Windows blocks programs that require permission to run when Windows starts. Click to view blocked programs.


nel, System and Maintenance)
Reboot Setup
Show or remove blocked startup programs
Run blocked program
View help
Exit
7:30 PM

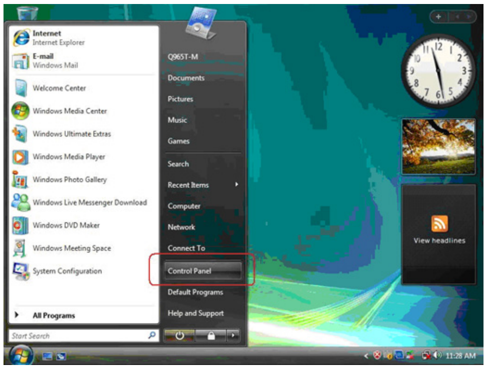
Method 2. Disable UAC (User Account Control)

* For administrator account only. Standard user account can only use Method 1.

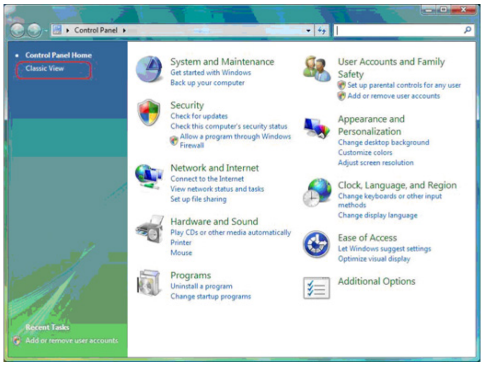
Disable Vista UAC function before installing drivers, then use CD driver to install drivers, it will continue to install drivers after system restart without running blocked programs.

Follow these instructions to Disable Vista UAC function:

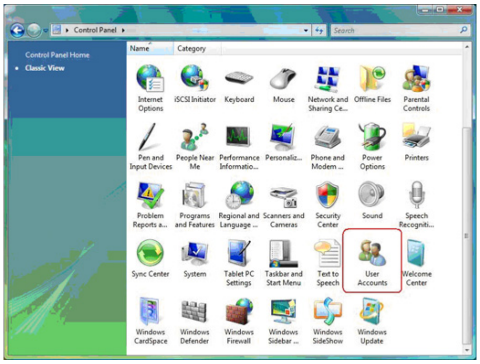
1. Go to **Control Panel**.


Internet
Internet Explorer
E-mail
Windows Mail
Welcome Center
Windows Media Center
Windows Ultimate Extras
Windows Media Player
Windows Photo Gallery
Windows Live Messenger Download
Windows DVD Maker
Windows Meeting Space
System Configuration
All Programs
Start Search
Q965T-M
Documents
Pictures
Music
Games
Search
Recent Items
Computer
Network
Connect To
Control Panel
Default Programs
Help and Support
View headlines
11:28 AM

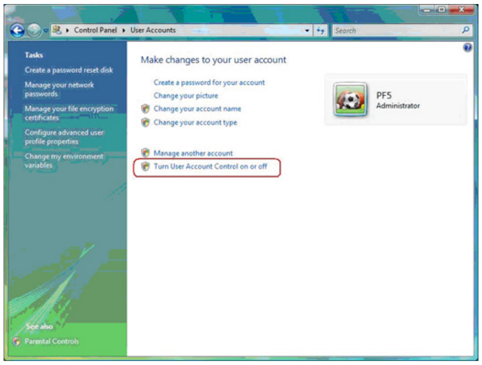
2. Select **Classic View**.


Control Panel
Control Panel Home
Classic View
System and Maintenance
Get started with Windows
Back up your computer
Security
Check for updates
Check this computer's security status
Allow a program through Windows Firewall
Network and Internet
Connect to the Internet
View network status and tasks
Set up file sharing
Hardware and Sound
Play CDs or other media automatically
Printer
Mouse
Programs
Uninstall a program
Change startup programs
User Accounts and Family Safety
Set up parental controls for any user
Add or remove user accounts
Appearance and Personalization
Change desktop background
Customize colors
Adjust screen resolution
Clock, Language, and Region
Change keyboards or other input methods
Change display language
Ease of Access
Let Windows suggest settings
Optimize visual display
Additional Options
Recent Tasks
Add or remove user accounts

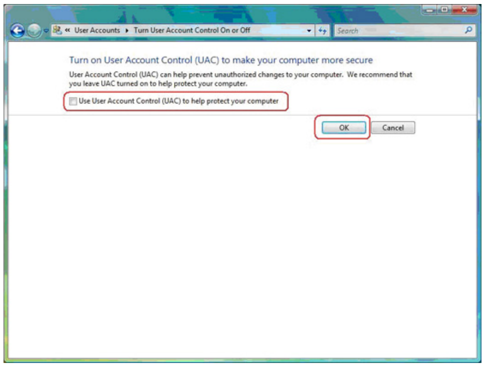
3. Set **User Account**.


Control Panel
Search
Control Panel Home
Classic View
Name
Category
Internet Options
iSCSI Initiator
Keyboard
Mouse
Network and Sharing Ce...
Offline Files
Parental Controls
Pen and Input Devices
People Near Me
Performance Informatio...
Personaliz...
Phone and Modem ...
Power Options
Printers
Problem Reports a...
Programs and Features
Regional and Language ...
Scanners and Cameras
Security Center
Sound
Speech Recogniti...
Sync Center
System
Tablet PC Settings
Taskbar and Start Menu
Text to Speech
User Accounts
Welcome Center
Windows CardSpace
Windows Defender
Windows Firewall
Windows Sidebar ...
Windows SideShow
Windows Update

4. *Select **Turn User Account Control on or off** and press **Continue**.*


Control Panel ▸ User Accounts
Search
Tasks
Create a password reset disk
Manage your network passwords
Manage your file encryption certificates
Configure advanced user profile properties
Change my environment variables
See also
Parental Controls
Make changes to your user account
Create a password for your account
Change your picture
Change your account name
Change your account type
Manage another account
Turn User Account Control on or off
PF5
Administrator

5. *Disable **User Account Control (UAC) to help protect your computer** item and press **OK**, then press **Restart Now**. Then you can restart your computer and continue to install drivers without running blocked programs.*


« User Accounts ▸ Turn User Account Control On or Off
Search

Turn on User Account Control (UAC) to make your computer more secure

User Account Control (UAC) can help prevent unauthorized changes to your computer. We recommend that you leave UAC turned on to help protect your computer.

☐ Use User Account Control (UAC) to help protect your computer

OK
Cancel

Bundled Software Installation

All bundled software available on the CD-ROM is for users' convenience. You can install bundled software as follows:

1 Click the **Application** button while the Auto Setup screen pops out after inserting the support CD-ROM.
2 A software menu appears. Click the software you want to install.
3 Follow onscreen instructions to install the software program step by step until finished.

Note: Please go to PCCHIPS Website to download AMD Cool'n'Quiet™ Technology.

Chapter 5 Setting Up NVIDIA RAID Configuration

Setting Up a Non-Bootable RAID Array

RAID arrays can be created/deleted using both MediaShield RAID BIOS and the MediaShield RAID Manager from Windows. This section only covers basic BIOS setup required for non-bootable array. See the section "Setting Up a Bootable RAID Array" for instructions on configuring the RAID array in BIOS. See sections on using the MediaShield RAID Manager for details on configuring non-bootable RAID from Windows.

Setting Up the BIOS

1 Start your computer, then press Delete to enter the BIOS setup.

The BIOS CMOS Setup Uyility window appears.

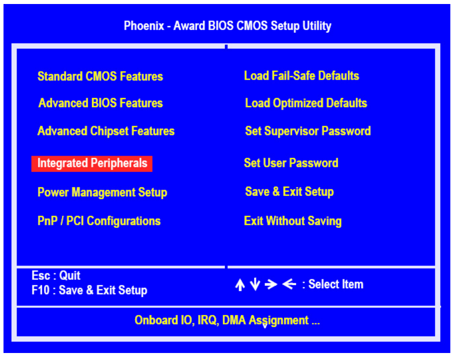
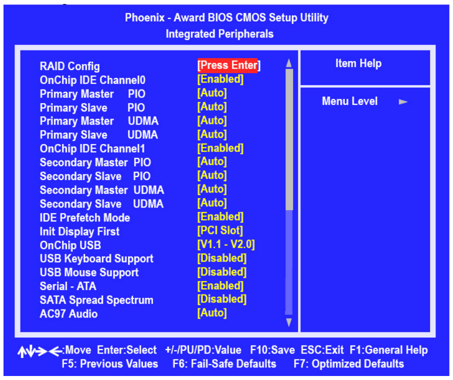

Phoenix - Award BIOS CMOS Setup Utility
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Features
Integrated Peripherals
Power Management Setup
PnP / PCI Configurations
Load Fail-Safe Defaults
Load Optimized Defaults
Set Supervisor Password
Set User Password
Save & Exit Setup
Exit Without Saving
Esc : Quit
F10 : Save & Exit Setup
↑ ↓ → ← : Select Item
Onboard IO, IRQ, DMA Assignment ...

Figure 2.1 BIOS CMOS Setup Utility Main Window

2 Use the arrow keys to select Integrated Peripherals (see Figure 2.1), then press Enter.

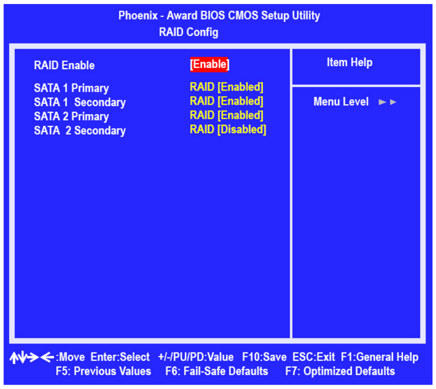
The Integrated Peripherals window appears.


Phoenix - Award BIOS CMOS Setup Utility
Integrated Peripherals
Item Help
Menu Level ►
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

```
RAID Config                 [Press Enter]
OnChip IDE Channel0         [Enabled]
Primary Master    PIO       [Auto]
Primary Slave     PIO       [Auto]
Primary Master    UDMA      [Auto]
Primary Slave     UDMA      [Auto]
OnChip IDE Channel1         [Enabled]
Secondary Master  PIO       [Auto]
Secondary Slave   PIO       [Auto]
Secondary Master  UDMA      [Auto]
Secondary Slave   UDMA      [Auto]
IDE Prefetch Mode           [Enabled]
Init Display First          [PCI Slot]
OnChip USB                  [V1.1 - V2.0]
USB Keyboard Support        [Disabled]
USB Mouse Support           [Disabled]
Serial - ATA                [Enabled]
SATA Spread Spectrum        [Disabled]
AC97 Audio                  [Auto]
```

Figure 2.2 Integrated Peripherals Window

3 Use the arrow keys to select the RAID Config (see Figure 2.2), then press Enter. The RAID Config window appears.



Phoenix - Award BIOS CMOS Setup Utility
RAID Config

RAID Enable	[Enable]
SATA 1 Primary	RAID [Enabled]
SATA 1 Secondary	RAID [Enabled]
SATA 2 Primary	RAID [Enabled]
SATA 2 Secondary	RAID [Disabled]

Item Help
Menu Level ►►
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 2.3 RAID Config Window

4 From the RAID Config window, globally enable RAID, then enable the SATA ports with disks that you want to use for RAID.

If RAID is enabled globally but not enabled on the individual SATA port, disks on that port can only be used for non-RAID applications.

In the example in Figure 2.3, three SATA ports are enabled, so the non-bootable RAID array can include up to 3 SATA disks. If there is a disk Connected to "SATA 2 Secondary", it can not be used for RAID.

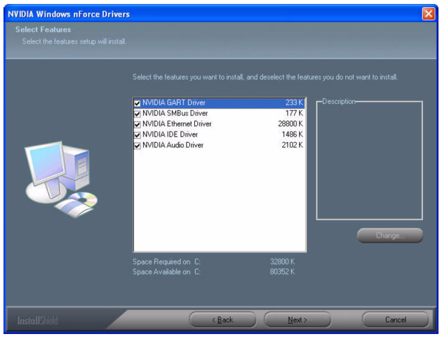
5 Press F10 to save the configuration and exit.

The PC reboots.

Installing the NVIDIA RAID Software Under Windows

This section describes how to run the setup application and install the RAID software.

1 Start the nForce Setup program to open the NVIDIA Windows nForce Drivers page.



NVIDIA Windows nForce Drivers

Select Features

Select the features setup will install.

Select the features you want to install, and deselect the features you do not want to install.

☑ NVIDIA GART Driver	233 K
☑ NVIDIA SMBus Driver	177 K
☑ NVIDIA Ethernet Driver	28800 K
☑ NVIDIA IDE Driver	1486 K
☑ NVIDIA Audio Driver	2102 K

Space Required on C: 32800 K
Space Available on C: 80352 K

Description
Change...
InstallShield
< Back
Next >
Cancel

Figure 2.4 nForce Driver Installation Window

2 Select the modules that you want to install.
Make sure that the “NVIDIA IDE Driver” is selected.

You must install the NVIDIA IDE driver in order to enable NVIDIA RAID. If you do not install the NVIDIA IDE driver, NVIDIA RAID will not be enabled.

3 Click Next and then follow the instructions.

4 After the installation is completed, be sure to reboot the PC.

5 After the reboot, initialize the newly created array.

Setting Up a Bootable RAID Array

This section explains how to configure a bootable NVIDIA RAID array.

Setting Up the BIOS

1 Start your computer, then press Delete to enter the BIOS setup. The BIOS CMOS Setup Uyility screen appears.

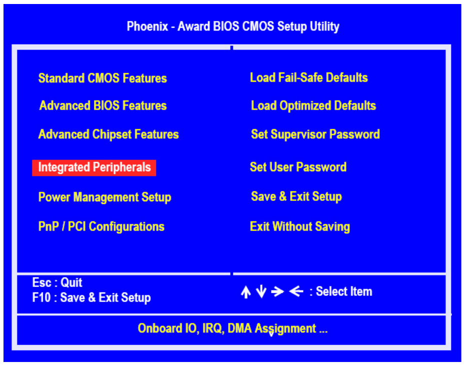
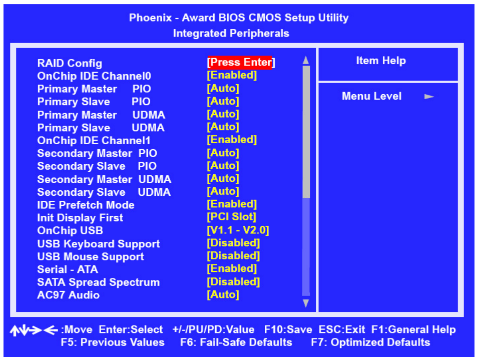

Phoenix - Award BIOS CMOS Setup Utility
Standard CMOS Features
Advanced BIOS Features
Advanced Chipset Features
Integrated Peripherals
Power Management Setup
PnP / PCI Configurations
Load Fail-Safe Defaults
Load Optimized Defaults
Set Supervisor Password
Set User Password
Save & Exit Setup
Exit Without Saving
Esc : Quit
F10 : Save & Exit Setup
↑ ↓ → ← : Select Item
Onboard IO, IRQ, DMA Assignment ...

Figure 2.5 BIOS CMOS Setup Utility Main Screen

2 Use the arrow keys to select Integrated Peripherals (see Figure 2.5), then press Enter. The Integrated Peripherals screen (or a screen similar to it) appears.


Phoenix - Award BIOS CMOS Setup Utility
Integrated Peripherals
Item Help
Menu Level ►
↑↓→← :Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

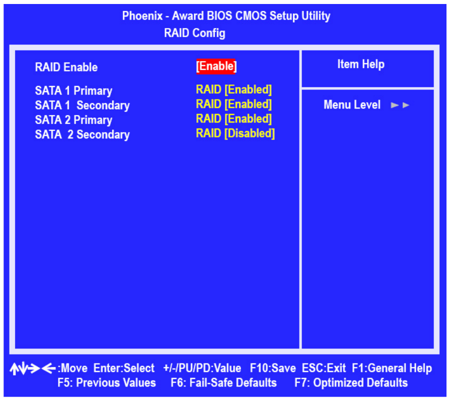
```
RAID Config                  [Press Enter]
OnChip IDE Channel0          [Enabled]
Primary Master    PIO        [Auto]
Primary Slave     PIO        [Auto]
Primary Master    UDMA       [Auto]
Primary Slave     UDMA       [Auto]
OnChip IDE Channel1          [Enabled]
Secondary Master  PIO        [Auto]
Secondary Slave   PIO        [Auto]
Secondary Master  UDMA       [Auto]
Secondary Slave   UDMA       [Auto]
IDE Prefetch Mode            [Enabled]
Init Display First           [PCI Slot]
OnChip USB                   [V1.1 - V2.0]
USB Keyboard Support         [Disabled]
USB Mouse Support            [Disabled]
Serial - ATA                 [Enabled]
SATA Spread Spectrum         [Disabled]
AC97 Audio                   [Auto]
```

Figure 2.6 Integrated Peripherals Screen

3 Use the arrow keys to select the RAID Config (see Figure 2.6).

4 Press Enter.

The RAID Config window appears.



```
Phoenix - Award BIOS CMOS Setup Utility
RAID Config

RAID Enable             [Enable]

SATA 1 Primary          RAID [Enabled]
SATA 1  Secondary       RAID [Enabled]
SATA 2 Primary          RAID [Enabled]
SATA  2 Secondary       RAID [Disabled]
```

Item Help
Menu Level ►►
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 2.7 RAID Config Screen

5 From the RAID Config window, globally enable RAID, then enable the SATA ports with disks that you want to use for RAID.

If RAID is enabled globally but not enabled on the individual SATA port, disks on that port can only be used for non-RAID applications.

In the example in Figure 2.7, three SATA ports are enabled, so the non-bootable RAID array can include up to 3 SATA disks. If there is a disk Connected to "SATA 2 Secondary", it can not be used for RAID.

6 Press F10 to save the configuration and exit.

The PC reboots.

7 Enter the RAID BIOS Setup by pressing F10 when prompted, and proceed to set up the NVIDIA RAID BIOS as described in the next section.

Configuring the NVIDIA RAID BIOS

The NVIDIA RAID BIOS set up lets you choose the RAID type and which hard drives you want to make part of the array.

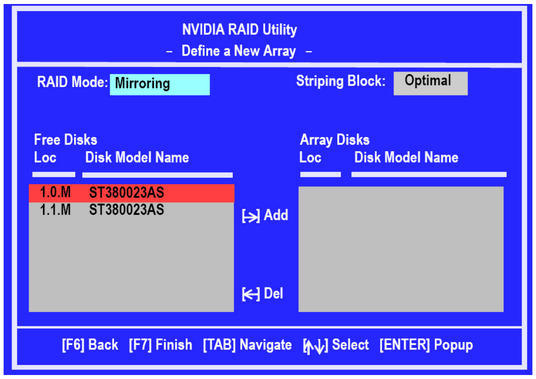
Entering the RAID BIOS Setup:

1 Wait until you see the RAID software prompting you to press F10.

The RAID prompt appears as part of the system POST and boot process prior to loading of the OS. You have a few seconds to press F10 before the screen disappears.

2 Press F10.

The NVIDIA RAID Utility—Define a New Array screen appears (Figure 2.8).



NVIDIA RAID Utility
– Define a New Array –

RAID Mode: Mirroring
Striping Block: Optimal

Free Disks

Loc	Disk Model Name
1.0.M	ST380023AS
1.1.M	ST380023AS

Array Disks

Loc	Disk Model Name

[→] Add
[←] Del
[F6] Back [F7] Finish [TAB] Navigate [↑↓] Select [ENTER] Popup

Figure 2.8 NVIDIA RAID Utility

By default, RAID Mode is set to Mirroring and Striping Block is set to Optimal.

Using the Define a New Array Screen

If necessary, press the tab key to move from field to field until the appropriate field is highlighted.

- **Selecting the RAID Mode**
  By default, this is set to Mirroring. To change to a different RAID mode, press the down arrow key until the mode that you want appears in the RAID Mode box—either Mirroring, Striping, Spanning, Stripe Mirroring or RAID 5.

  Note: Not all RAID levels are supported on all platforms.

- **Selecting the Strping Block Size**

  Striping block size is given in kilobytes, and affects how data is arranged on the disk. It is recommended to leave this value at the default Optimal, which is 64KB, but the values can be between 4 KB and 128 KB (4, 8, 16, 32, 64, and 128 KB)

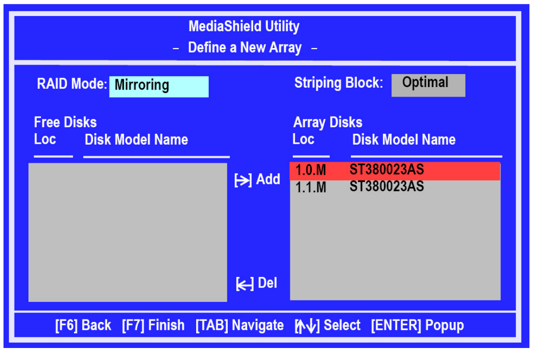
Assigning the Disks

The disks that you enabled from the RAID Config BIOS setup page appear in the Free Disks block. These are the drives that are available for use as RAID array disks.

To designate a free disk to be used as a RAID array disk,

1. Tab to the Free Disks section.
   The first disk in the list is selected
2. Move it from the Free Disks block to the Array Disks block by pressing the right-arrow key (—>).
   The first disk in the list is moved, and the next disk in the list is selected and ready to be moved.
3. Continue pressing the right-arrow key (—>) until all the disks that you want to use as RAID array disks appear in the Array Disks block.

Figure 2.9 illustrates the Define a New Array screen after two disks have been assigned as RAID1 array disks.



MediaShield Utility
– Define a New Array –

RAID Mode: Mirroring

Striping Block: Optimal

Free Disks

Loc	Disk Model Name

Array Disks

Loc	Disk Model Name
1.0.M	ST380023AS
1.1.M	ST380023AS

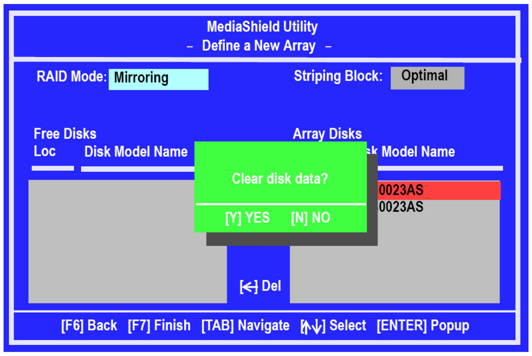
[→] Add
[←] Del
[F6] Back [F7] Finish [TAB] Navigate [↑↓] Select [ENTER] Popup

Figure 2.9 MediaShield Utility—Array Disks Assigned

Completing the RAID BIOS Setup

1 After assigning your RAID array disks, press F7.

The Clear disk array prompt appears.



MediaShield Utility
– Define a New Array –

RAID Mode: Mirroring

Striping Block: Optimal

Free Disks

Array Disks

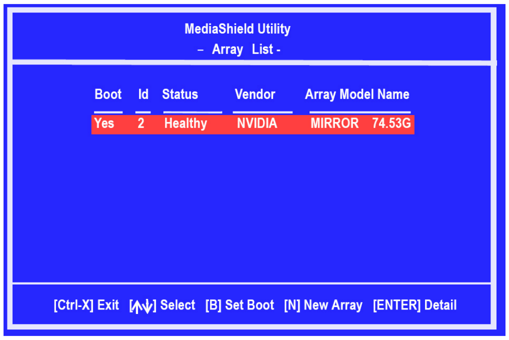
Clear disk data?

[Y] YES [N] NO
[←] Del
[F6] Back [F7] Finish [TAB] Navigate [↑↓] Select [ENTER] Popup

Figure 2.10 Clear Disk Data Prompt

2 Press Y to clear the disk data.

The Array List screen appears, where you can review the RAID arrays that you have set up.



MediaShield Utility
– Array List -

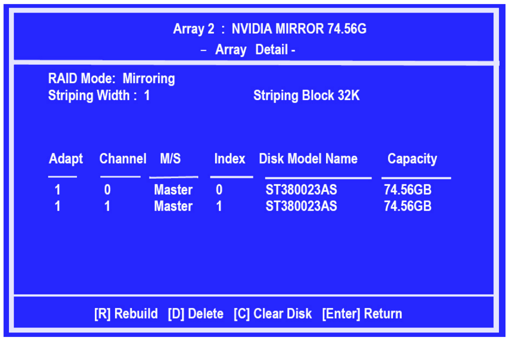
Boot	Id	Status	Vendor	Array Model Name
Yes	2	Healthy	NVIDIA	MIRROR 74.53G

Figure 2.11 Array List Window

3 Use the arrow keys to select the array that you want to set up, then press B to specify the array as bootable.

4 Press Enter to view and verify details.

The Array Detail screen appears.



Array 2 : NVIDIA MIRROR 74.56G
– Array Detail -

RAID Mode: Mirroring
Striping Width : 1
Striping Block 32K

Adapt	Channel	M/S	Index	Disk Model Name	Capacity
1	0	Master	0	ST380023AS	74.56GB
1	1	Master	1	ST380023AS	74.56GB

Figure 2.12 Array Detail Screen

The Array Detail screen shows various information about the array that you selected, such as Striping Block used, RAID Mode, Striping Width, Disk Model Name, and disk capacity.

5 If you want to mark this disk as empty and wipe out all its contents, press C.

6 At the prompt, press Y to wipe out all the data, otherwise press N.

7 Press Enter again to go back to the previous screen and then press F10 to exit the RAID setup.

Installing the RAID Drivers

Your system may come with a Windows install CD that already includes NVIDIA RAID drivers. If so, then this section is not relevant.

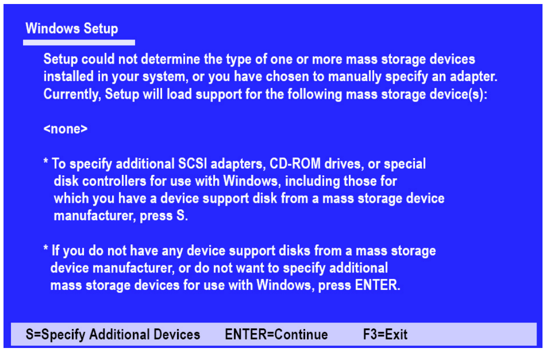
If that is not the case (or you are trying to install a new version of Windows), then you will need an NVIDIA RAID driver F6 install floppy. Check to see if one came with your system. If not, you can create one by downloading the appropriate driver package and following the steps in this section.

1 Create an F6 install floppy by using the "-x" option, then copy all files in "…\IDE\WinXP\sataraid" to a floppy disk. (For Windows 2000, substitute "Win2K" in the path.)

2 After you complete the RAID BIOS setup, boot from the Windows CD.

The Windows Setup program starts.

3 Press F6 and wait a few moments for the Windows Setup screen to appear.



Windows Setup

Setup could not determine the type of one or more mass storage devices installed in your system, or you have chosen to manually specify an adapter. Currently, Setup will load support for the following mass storage device(s):

<none>

* To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.

* If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.

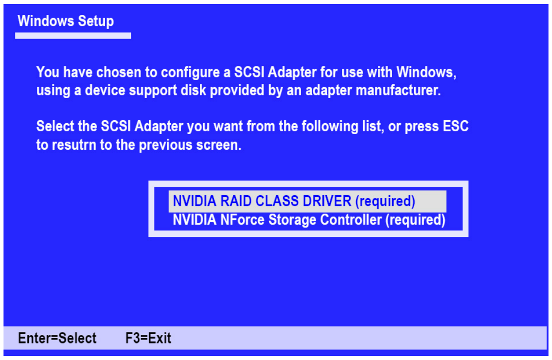
S=Specify Additional Devices ENTER=Continue F3=Exit

Figure 2.13 Windows Setup—Specify Devices

4 Specify the NVIDIA drivers.

a Insert the floppy that has the RAID driver, press S, then press Enter.

The following Windows Setup screen appears:



Windows Setup

You have chosen to configure a SCSI Adapter for use with Windows, using a device support disk provided by an adapter manufacturer.

Select the SCSI Adapter you want from the following list, or press ESC to resutrn to the previous screen.

NVIDIA RAID CLASS DRIVER (required)
NVIDIA NForce Storage Controller (required)

Enter=Select F3=Exit

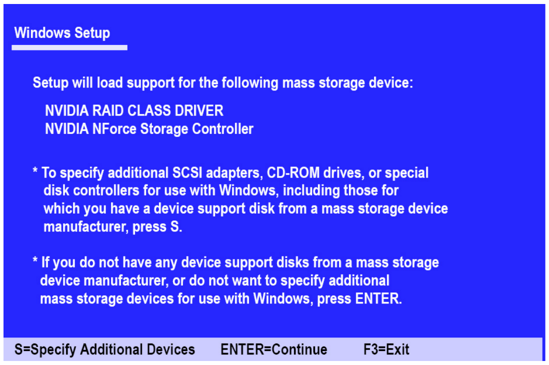
Figure 2.14 Windows Setup—Selected SCSI Adapter

b Select "NVIDIA RAID CLASS DRIVER (required)" and then press Enter.

c Press S again at the Specify Devices screen, then press Enter.

d Select "NVIDIA NForce Storage Controller (required)" and then press Enter.

The following Windows Setup screen appears listing both drivers:.



Windows Setup

Setup will load support for the following mass storage device:

NVIDIA RAID CLASS DRIVER
NVIDIA NForce Storage Controller

* To specify additional SCSI adapters, CD-ROM drives, or special disk controllers for use with Windows, including those for which you have a device support disk from a mass storage device manufacturer, press S.

* If you do not have any device support disks from a mass storage device manufacturer, or do not want to specify additional mass storage devices for use with Windows, press ENTER.

Figure 2.15 Windows Setup—NVIDIA drives listed

5 Press Enter to continue with Windows XP Installation.

Be sure to leave the floppy disk inserted in the floppy drive until the blue screen portion of Windows XP installation is completed, then take out the floppy.

6 Follow the instructions on how to install Windows XP.

After Windows XP is completely installed, it is recommended that you install the ForceWare software in order to access the MediaShield RAID Management tool.

Note: Each time you add a new hard drive to a RAID array, the RAID driver will have to be installed under Windows once for that hard drive. After that, the driver will not have to be installed.